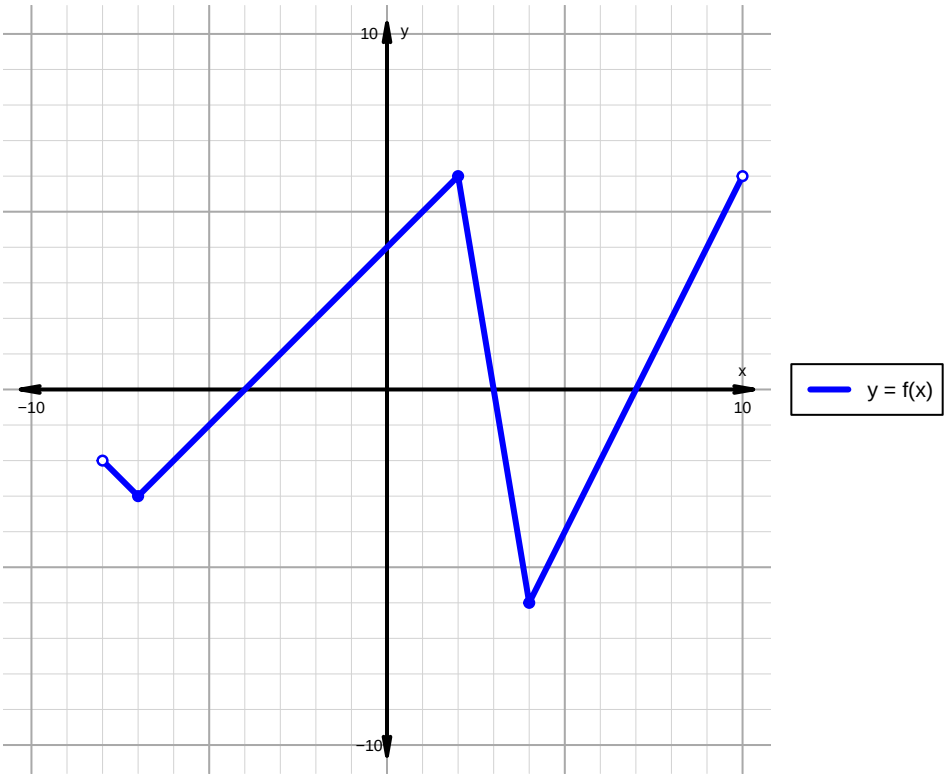
Name: Date:

Intervals, Transformations, and Slope Solution (version 79)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-4, 3) \cup (7, 10)$
Negative	$(-8, -4) \cup (3, 7)$
Increasing	$(-7, 2) \cup (4, 10)$
Decreasing	$(-8, -7) \cup (2, 4)$
Domain	$(-8, 10)$
Range	$(-6, 6)$

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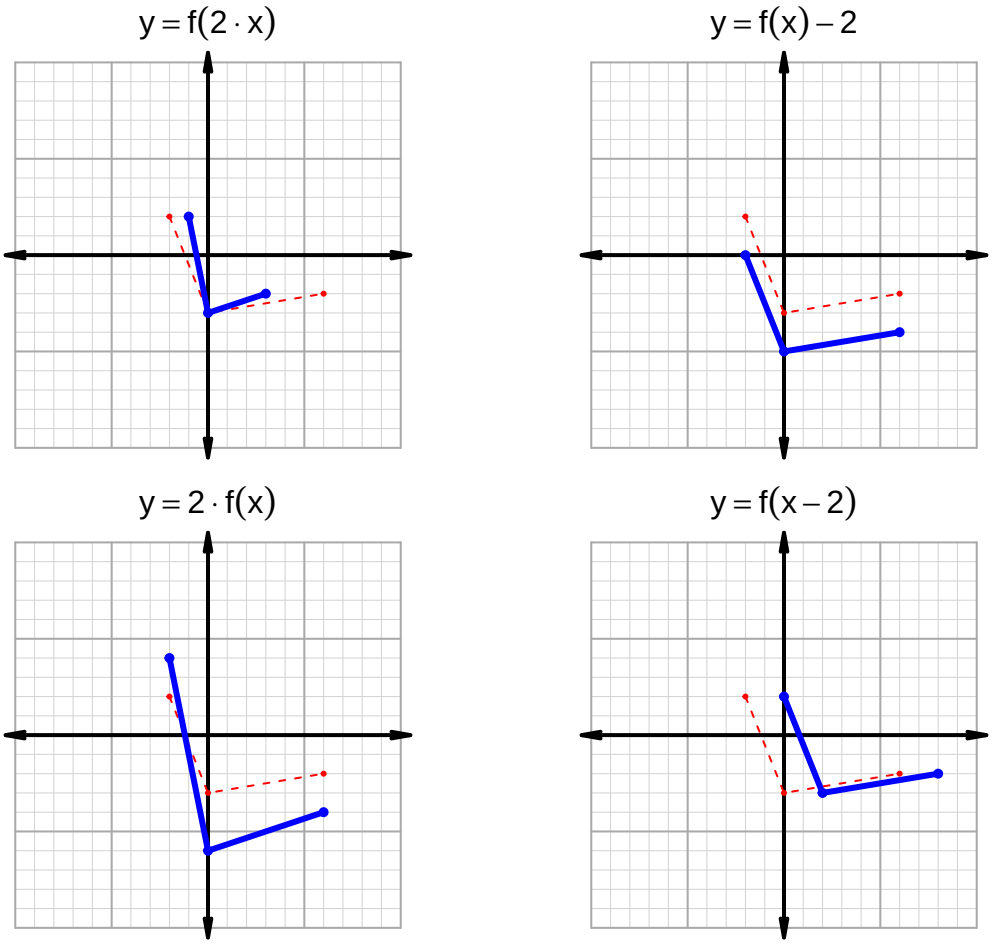
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 47$ and $x_2 = 65$. Express your answer as a reduced fraction.

x	$g(x)$
7	47
28	65
47	28
65	7

$\frac{g(65)-g(47)}{65-47} = \frac{7-28}{65-47} = \frac{-21}{18}$

The greatest common factor of -21 and 18 is 3. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-7}{6}$$